OUTLINES OF FIRST AID U.S. ARMY 1899

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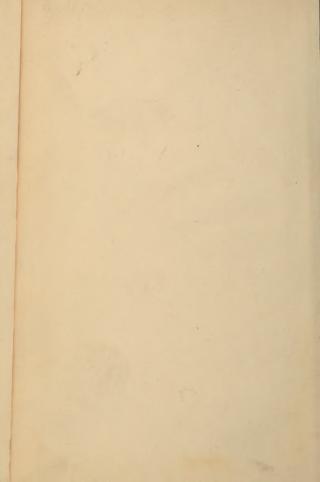
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OUTLINES

OF

FIRST AID,

U.S. ARMY.

WAR DEPARTMENT,

U.S. Surgeon general's office.

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OUTLINES OF FIRST AID.

The object of any teaching upon first aid, or early assistance of the injured or sick, is not only to enable one person to help another, but in some measure to help himself. The purpose of these directions is to show how this may be done with simple means and by simple methods. It is a mistake to think that you must know many things to be helpful, but you must understand a few things clearly in order to assist the patient until, in the graver cases, he can be seen by the surgeon or those who are thoroughly trained. In the simpler cases what you can do may often be all that is necessary.

These short instructions are intended for application anywhere—at a military post, in camp, or under any circumstances of ordinary life; but as the wounds received in battle are the most important to the soldier, it is the more necessary that he should know what to expect there, and what to do for himself and others. Most of these wounds are made by the rifle ball, fewer by shell or shrapnel, while those made by the saber and bayonet come last in frequency.

WOUNDS.

When a ball enters or goes through the muscles or soft parts of the body alone, generally nothing need be done except to protect the wound or wounds with the contents of the first-aid packet, which all soldiers carry in time of war. The directions for the use of this packet are simple, and each packet contains them. In doing this always be careful of one thing-not to touch the wound with your fingers nor handle it in any way. for the dirt on your hands is harmful, and you must disturb a wound as little as possible. Do not even wash the wound, for it will seldom be necessary. Be content to open the packet carefully, and, placing the small pads or compresses upon the wound or wounds, to wrap the binder or narrow bandage firmly about the parts, fastening with a safety pin. This will hold the pads in place and will help to stop the ordinary bleeding. The large or triangular bandage should be bound over this, or used as a sling if required. Generally this is all that is necessary for the first treatment, and sometimes it is all that is needed for several days. The importance of the care with which this first dressing is made can not be too seriously insisted upon. It is better to leave a wound undressed than to dress it carelessly or ignorantly, so that the dressing must soon be removed.

HEMORRHAGE.

Now and then a wound will bleed very freely, because a large blood-vessel has been wounded, and you must know how to stop the bleeding, or hemorrhage as it is called. Remember that all wounds bleed a little, but that as a rule this bleeding will stop in a few minutes if the patient is quiet, and that the firm pressure of the pads and bandage will keep it controlled. Occasionally, but not often, something else must be done.

Fig. 1, with its explanations, contains all that you need understand about the skeleton or bones of the body, the course of the blood-vessels or arteries, and the points you must remember when an uncommon bleeding

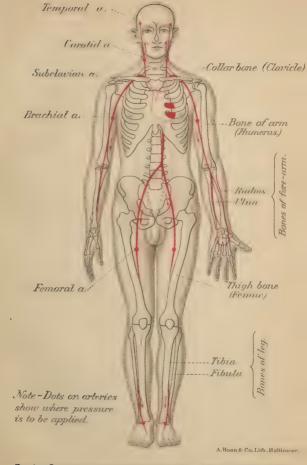


FIG. 1.—SKELETON, WITH OUTLINE OF BODY. HEART AND PRINCIPAL ARTERIES AND POINTS FOR COMPRESSION.



takes place and you have to apply pressure, which you are always to make at first with the fingers, as shown. If you will look at this figure and at the heart, which is a pump, you will understand that to stop the current of blood pumped through the arteries you must press upon the blood-vessel between the wound and the heart. This pressure stops the current of blood in the same way that you would stop the flow of water in a leaky rubber hose or tube by pressing upon it between the leak and the pump, or other source of power. The points or places where you can best do this for the different parts of the body are shown in fig. 1, and are illustrated in the woodcuts. These points are chosen for pressure because the blood-vessels which you wish to control run near the surface here, and great force is not needed to reach them as it is where they lie deeper.

POINTS FOR DIGITAL COMPRESSION.



Fig. 2. - Carotid, left side.

POINTS FOR DIGITAL COMPRESSION.



Fig. 3.-Subclavian, right side.



Fig. 4.—Brachial, left side.

POINTS FOR DIGITAL COMPRESSION.



Fig. 5.—Femoral, left side.

There are two other simple means for helping to stop bleeding—such as elevating or holding an arm or leg upright when these parts are wounded, and by applying cold to the wound; but you will find the compress and bandage, or the pressure made by your fingers, as described, to be most useful and in the great majority of cases quite sufficient.

When, however, the bleeding continues after you have used these simpler means, or your fingers become tired in making the pressure, which they may do after ten or fifteen minutes, you will probably have to use what is called a "tourniquet," and generally improvise one out of material at hand. The principle of such a tourniquet is easily understood—a pad or compress placed on the line of the artery and a strap or band to go over the pad and around the limb so that, when tightened, it will press the pad down upon the artery and interrupt the flow of the blood. The pad or compress may be made of such an object as a cork, or smooth round stone wrapped in some material to make it less rough; the triangular bandage folded, a handkerchief, or a cravat being used for the strap. After tving the band closely around the limb any degree of pressure may be made by passing a stick, bayonet, or something of that kind of sufficient length, and twisting or turning it around so that the pad is pressed firmly in place. Turn the stick slowly and stop at once when the blood ceases to flow, fixing the stick in place with another bandage. Remember that you may do harm in two ways in using this rough tourniquet. First by bruising the flesh and muscles if you use too much force, and, second, by keeping this strangling and pressure up too long. It is a good rule to relax or ease up on this or any other tourniquet at the

end of an hour, and allow it to remain loose, but in place, if no bleeding appears. By this means and watching you can tighten the tourniquet at any time if necessary. Other tourniquets are in use, and for this purpose the elastic or rubber bandage is supplied in the hospital corps pouches. The management of this and other field tourniquets will be explained to you elsewhere.

IMPROVISED TOURNIQUET.



Fig. 6. - Compression of right brachial.

IMPROVISED TOURNIQUET.



Fig. 7.—Compression of left femoral.

ORDINARY TOURNIQUETS.



Fig. 8.-Field tourniquet, right brachial.



Fig. 9.—Esmarch's tourniquet, left femoral.

FRACTURES.

The next injury you must know how to help is a broken bone. The lower extremities, thigh and leg, are more frequently wounded than the upper, arm and forearm; and so you will find more fractures of the thigh and leg bones than of the bones of the arm and forearm. All of these bones are shown in fig. 1. You will usually know when one of these long bones is broken by the way the arm or leg is held, for the wounded man loses power or control over the limb, and it is no longer firm and straight. What you must do is much the same in all cases to straighten the limb gently, pulling upon the end of it firmly and quietly when this is necessary, and to fix or retain it in position by such splints or other material as you may have. This is called "setting" the bone. If you have none of the splint material supplied. many common materials will do for immediate and temporary use, a shingle or piece of board, a carbine boot, a scabbard, a tin gutter or rain spout cut and fitted to the limb, a bunch of twigs, or even a broom handle or an umbrella. Whatever material you choose must be well padded upon the side next to the limb, and after wards secured or bound firmly in place, care being taken never to place the bandage over the fracture, but always above and below. Some of these methods are shown in the following figures. The military rifle may also be used for the thigh, but its application needs great care, and it is not recommended.



Fig. 10.-Fracture, right arm.



Fig. 11.-Fracture, right forearm.



Fig. 12.-Fracture, left thigh.



Fig. 13. - Fracture, right leg-roll of clothing and sticks.



Fig. 14. - Fracture, right thigh-carbine boots.



Fig. 15.—Right leg—carbine boots.

But you may have none of these materials, or it may be that there is no time to search for them, so that, if the arm be broken, the next best thing to do is to fix or confine it to the body by a bandage, placing the forearm in a sling; or if a thigh or leg be broken, to fix it to the sound leg in a similar way.



Fig. 16.—Fracture of right arm, confined to body.



Fig. 17.-Fracture of left leg, supported by sound leg.

Many surgeons think that this method of fixing the wounded leg to its fellow, and of binding the arm to the body, is the best plan for the field, as the quickest and as serving the immediate purpose.

The object of all this is to prevent, as far as possible, any motion of the broken bone, and so limit the injury to the neighboring muscles, and to lessen the pain.

Be very careful always to handle a broken limb gently. Do not turn nor twist it more than is necessary to get it straight, but secure it quickly and firmly in one of the ways shown, and so make the patient comfortable for carriage to the dressing station or hospital. Time is not to be wasted in complicated dressings.

OTHER WOUNDS.

There are, of course, many wounds of the head, face, and of the body, but for the most part you will have little to do with these except to protect the wound itself with the contents of the first-aid packet, or, if bleeding makes it necessary, use in addition several of the packet compresses to control it. As the surface blood-vessels of the head and face lie over the bones and close to them, it will generally not be difficult to stop

the bleeding by this means or by the pressure with the fingers, as shown before. Remember, as you were told, to make the pressure between the heart and the bleeding point.

With wounds about the body, the chest and abdomen, you must not meddle, except to protect them, when possible without much handling, with the materials of the packet.

BANDAGES AND SLINGS.

The triangular bandage, as furnished, is a piece of cotton cloth, measuring 4 feet 2 inches at the base and 2 feet 9 inches at the sides. It is intended to be folded in several ways and used as a bandage for various parts of the body, or to be used as a sling for the hand and forearm. The illustrations which follow will show you the most common applications as bandages and slings.

TRIANGULAR BANDAGES.



Fig. 18,-Head; front view, rear view.

TRIANGULAR BANDAGES.



Fig. 19.—Shoulder, hand, elbow.



Fig. 20.-Chest, front view.

TRIANGULAR BANDAGES.



Fig. 21.-Hip.



Fig. 22.-Knee.

TRIANGULAR BANDAGES.



Fig. 23.-Foot.

SLINGS.



Fig. 24. - Ordinary arm sling.

In addition to this form of sling, which you will commonly find at hand, two others may be shown as furnished by the ordinary clothing:

SLINGS.



Fig. 25.—Sleeve as sling.



Fig. 26.—Flap of coat as sling.

CAUTIONS.

You have already been frequently warned to be clean and gentle in the treatment of the wounded, and the necessity for cleanliness must be always in your mind; but there are some general directions which you will do well to remember:

- 1. Act quickly but quietly.
- 2. Make the patient sit down or lie down.
- 3. See an injury clearly before treating it.
- 4. Do not remove more clothing than is necessary to examine the injury, and keep the patient warm with covering if needed. Always rip, or, if you can not rip, cut the clothing from the injured part, and pull nothing off.
- 5. Give alcoholic stimulants cautiously and slowly, and only when necessary. Hot drinks will often suffice.
- 6. Keep from the patient all persons not actually needed to help him.

OTHER ACCIDENTS AND INJURIES.

These are the principal injuries with which you will have to deal, but there are a few other conditions about which you should be informed, although they are not peculiar to military life, the first two only being related to wounds.

SHOCK.

By this term is meant a very grave physical and mental depression following extensive wounds, such as those produced by shell, and ordinary wounds in which the chest and abdomen are entered. You can hardly mistake this condition, for it resembles approaching death. If possible, the patient should not be moved, but kept in position where found, warmed and carefully stimulated. This will be difficult, perhaps impossible, on the battlefield, but it should be attempted unless removal can not be avoided.

FAINTING.

This condition is generally the result of severe bleeding, or perhaps of exhaustion from fatigue. The patient should be laid upon the back, head lowered, arms by the side, feet extended, and should be carefully stimulated. This condition is rarely dangerous.

The other important accidents or conditions with which you may have to deal are drowning, sunstroke, heat exhaustion, burns, and freezing.

DROWNING.

In drowning the breathing is stopped; air does not reach the lungs. Submersion, or being under water, for four or five minutes is generally fatal, but you should always make an effort to revive the apparently drowned unless it be known that the body has been under the water for a long time.

Wipe out the nose and mouth, pull the tongue for ward and hold it there, placing something between the teeth to keep the mouth well open. Remove clothing if still on, and rub the body briskly, giving stimulants slowly, and only when the patient becomes conscious enough to swallow. Do not waste time on this preparation, however, but begin artificial breathing or respiration at once, by the following method:

Place body on back, raising the shoulders but not the head, and retain the tongue as shown in the illustration.



Fig. 27.-First movement, inspiration-Sylvester's method.



Fig. 28. -Second movement. expiration-Sylvester's method.

Kneel at head of patient, grasp the clbows, draw them upward and carry them above the head, keeping them there until you count one, two, three, slowly. This movement produces inspiration.

The elbows are then carried slowly downward, placed by the side, and pressed strongly inward against the chest, producing expiration. Repeat these movements about fifteen times a minute for at least an hour or more, unless the patient recovers sooner.

There are several other methods which allow air to enter the lungs, but this is simple and you can do it alone, except the rubbing. Be sure that natural breathing has fully begun before you stop any artificial method, when you may place the patient in bed or at rest, and give a small amount of warm nourishment.

SUNSTROKE.

Sunstroke and heat exhaustion must not be confused, for their treatment is different. Sunstroke generally occurs in persons who work hard, exposed to the sun; it is sometimes called "heat apoplexy"; the face is flushed, and the heat of the body is often very great. It is to be treated by ice to the head, cold baths, or cold applications to the body. The object is to cool the patient.

HEAT EXHAUSTION.

Heat exhaustion is the result of exposure to high temperatures in or out of the sun, and is a condition of depression, with cool skin and pale face. The patient is to be freely stimulated, and kept warm, with hot baths if necessary; the object being to restore the natural heat of the body.

It is well to be warned that both sunstroke and heat exhaustion are common and severe among drinkers and the intemperate.

BURNS.

Burns, slight and severe, are familiar to every one. Do not pull the clothing from the burnt part, but rip or cut it off. Do not break the blisters, nor prick them even if large. Protect a burn quickly with a mixture of equal parts of linseed or olive oil and lime water, if you have them; or with the plain oil, covering the whole with lint or cotton wool. Put nothing on a burn that will be difficult to remove afterwards. Treat it as an open wound.

FREEZING AND FROSTBITE.

Freezing and frostbite mean the same thing, though the latter term should be applied to the freezing of small surfaces. The temperature of the body or part frozen, which looks white, or bluish white, and is cold, should be very slowly raised by brisk but careful rubbing, in a cool place and never near a fire. Stimulants are to be given cautiously when the patient can swallow, and followed by small amounts of warm liquid nourishment. The object is to restore the circulation of the blood, and the natural warmth, gradually and not violently. Care and patience are necessary to do this.

TRANSPORTATION.

The carriage of patients, for moderate distances on or from the field, is best done with the service litter, and when that can not be procured, by some improvised substitute which secures the comfort and safety of the person disabled. These methods, and those by one or more bearers, are fully described in the Drill Regulations for the Hospital Corps, and are not repeated here.

It will generally be found necessary during or after an action to restrict the number of bearers to two, and attention to methods requiring not more than two bearers is recommended for any emergency.













